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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,252	06/26/2000	Hideki Muto	36856.881	2828

7590 06/04/2003  
Keating & Bennett, LLP  
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EXAMINER

SUMMONS, BARBARA

ART UNIT PAPER NUMBER

2817

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

Applicant(s)

09/603,252

Muto et al.

Examiner

Group Art Unit

Barbara Summons

2817

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3(three) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☒ Responsive to communication(s) filed on 5/5/03 (RCE + submission/ Request for Reconsideration)
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-21 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-21 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some\* ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 12
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR § 1.114, including the fee set forth in 37 CFR § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/5/03 has been entered.

### ***Withdrawn Claim Rejections - 35 USC § 103***

2. Although the Examiner does not particularly agree with Applicants' arguments, the prior rejection based upon Erickson in view of Chigodo et al. is withdrawn in favor of the following rejection which mirrors the logic of the Japanese Patent Office rejection which was provided with the IDS received 9/24/02.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was

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commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chigodo et al. U.S. 5,473,293 (of record) in view of the IEEE article by Fukushima et al. (cited by Applicants).

Figs. 1, 3, and 5 of Chigodo et al. discloses a high frequency antenna switch for switching either to a state of a transmission circuit being connected to the antenna and a reception circuit being connected to the antenna (see Fig. 5), comprising: a multilayer circuit board (see Figs. 1 and 2), on which there is formed a circuit including: a transmission terminal TX/52f (Figs. 3/1) for connection to a transmission circuit (see Fig. 5); a reception terminal RX/52j for connection to a reception circuit; an antenna terminal ANT/52c for connection to the antenna; a ground terminal (52k and 52l); a first diode D1/18 whose anode is connected to the transmission circuit terminal TX via capacitor C1 (Fig. 3), and whose cathode is connected to the antenna terminal via capacitor C3; a second diode D2/20 whose anode is connected (via capacitor C4) to the reception circuit terminal RX, and whose cathode is connected (via capacitor C6) to the ground terminal; a signal line (i.e. all of the horizontal conductor between TX and RX, and the vertical line between node A and ANT in Fig. 3) for connecting the transmission circuit terminal TX, the

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reception circuit terminal RX and the antenna terminal ANT via the first diode D1, wherein at least a part of the signal line SL2/40 (Figs. 3/1) is disposed inside the multilayer circuit board [see Fig. 2(D)]; and wherein the transmission circuit terminal TX/52f, the reception circuit terminal RX/52j, the antenna terminal ANT/52c, the ground terminal (52k and 52l), the first diode D1/18, and the second diode D2/20 are all located on the surface of the multilayer circuit board (Fig. 1).

However, Chigodo et al. does not show an inductor or an LC filter between the signal line and ground that is effective to eliminate an electrostatic surge occurring on the signal line.

The IEEE article to Fukushima et al. discloses that it is well known to protect surface acoustic wave transmission and reception filters of a duplexer from electrostatic discharge/surge entering the signal line to the filters from the antenna (see page 11, in box) by providing an LC filter, including inductors between the signal line (extending between the antenna and transmission and reception filters) and ground [see Fig. 5(b)], so that the surge will go to ground via the inductors (ibid.). This circuit will inherently provide-elimination of an electrostatic surge with a frequency lower than the signal line from the antenna because it has a low impedance to ground at low frequencies.

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the antenna switch of Chigodo et al. by having provided an electrostatic discharge surge protection LC filter with an inductor directly connected between the signal line and ground as taught, for example, by the IEEE article to Fukushima et al. [Fig. 5(b)], because such an obvious modification would have provided the advantageous benefit of

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protecting the transmission and reception circuit filters from electrostatic discharge from the antenna as suggested by Fukushima et al. (see page 11, in the box).

***Response to Arguments***

5. Applicant's arguments with respect to claims 1 and 5, and the rejection based upon Erickson in view of Chigodo et al., have been considered but are moot in view of the new ground(s) of rejection.

6. Any inquiry concerning this communication should be directed to Barbara Summons at telephone number (703) 308-4947, FAX no. (703) 308-7724, receptionist's no. (703) 308-0956, Supervisory Examiner Bob Pascal (703) 308-4909.

A handwritten signature in black ink that reads "Barbara Summons". The signature is written in a cursive style with a long horizontal flourish at the end.

bs  
May 29, 2003

Barbara Summons  
Primary Examiner  
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